REMARKS/ARGUMENTS

In view of the following remarks, the applicants respectfully submit that the pending claims are not rendered obvious under 35 U.S.C. § 103. Accordingly, it is believed that this application is in condition for allowance. **If, however, the Examiner believes that there are any unresolved issues, or believes that some or all of the claims are not in condition for allowance, the applicants respectfully request that the Examiner contact the undersigned to schedule a telephone Examiner Interview before any further actions on the merits.**

The applicants will now address each of the issues raised in the outstanding Office Action.

Rejections under 35 U.S.C. § 103

Claims 1 and 15-19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2000026112 ("the Yoshida publication") in view of U.S. Patent No. 5,170,288 ("the Imaizumi patent"). The applicants respectfully request that the Office reconsider and withdraw this ground of rejection in view of the following.

Independent claim 1, as amended, is not rendered obvious by the Yoshida publication in view of the Imaizumi patent because these references, either taken alone or in combination, neither teach, nor make obvious, a photographing device provided with a dust removing

mechanism comprising a photoelectric conversion element which converts an optical image into an electric signal; an optical element arranged in a light path of the photoelectric conversion element; a piezoelectric element provided at a peripheral portion of the optical element; a drive circuit which supplies a drive signal to the piezoelectric element to drive the piezoelectric element; and ***a control circuit which causes the piezoelectric element to vibrate via the drive circuit, to thereby cause flexural standing wave vibration in the optical element, the control circuit being configured to cause at least two flexural standing wave vibrations in the optical element at different nodes of vibration sequentially for predetermined time periods which are determined in accordance with characteristics of the optical element by changing control modes with time***. The amendments to claim 1 (and similarly independent claim 18) are supported by, for example, Figs. 12-15 (especially S3 and S6 of Fig. 12, S14 of Fig. 13, S23 and S26 of Fig. 14, and S34 of Fig. 15), and their associated description (page 34, line 3 through page 45, line 19) and page 35, lines 14-16.

In rejecting previously presented claim 1, the Office concedes that the Yoshida publication fails to teach causing flexural standing wave vibration in the optical element. (See, for example, page 3 of the Office Action.) The Office alleges that the Imaizumi patent teaches this feature. (See, for example, page 3 of the Office Action.)

Embodiments consistent with the present invention include a dust removing mechanism that ***drives a piezoelectric element to vibrate*** (for example, at a plurality of resonance frequencies)***, causing a flexural standing wave vibration in an optical element sequentially for predetermined time periods which are determined in accordance with characteristics of the optical element***. In embodiments consistent with the claimed invention, to remove the dust adhering to the optical element effectively, the optical element is vibrated at particular frequencies (for example, at resonance frequency) ***continuously for predetermined time periods***. (See, for example, page 33, lines 14-19 and Figures 12-15.) The time periods are determined based upon the characteristics of the optical element. (See, for example, page 35, lines 14-16.)

The Imaizumi patent concerns vibrators (which the applicants believe to be ultrasonic vibrators) used to remove ice, water droplets and frost from automotive rear view mirrors. (See, for example, the abstract and Col. 1 lines 11-27 of the Imaizumi patent.) The configuration of the Imaizumi patent concerns varying the frequency at which the vibrators vibrate with time. (See, for example, the abstract and Col. 3 lines 41-46 of the Imaizumi patent.) However, the Imaizumi patent does not teach or suggest that the times (with which the various frequencies are applied) is determined based on the characteristics of the mirror to which the vibrator is attached. Thus, the Imaizumi patent does not teach ***causing a flexural standing wave vibration in an optical element sequentially for predetermined time periods which***

are determined in accordance with characteristics of the optical element.

If the time period for which the vibrator is vibrated at a particular frequency (even if it is at resonance frequency) is not determined based on the characteristics of the optical element, the vibration may be terminated too soon (in which case, the optical element may not be sufficiently vibrated to remove the dust from the optical element effectively), or too late (in which case energy is wasted and photographing is delayed). Although energy savings might not be an important consideration in the context of an automobile mirror, such energy savings are a significant consideration in photographing devices. Furthermore, delays in photographing are not considerations in the device of the Imaizumi publication. Accordingly, the vibrator of the Imaizumi publication is not same as a control circuit which causes the piezoelectric element to vibrate via the drive circuit, to thereby cause flexural standing wave vibration in the optical element, the control circuit being configured to cause at least two flexural standing wave vibrations in the optical element at different nodes of vibration sequentially for predetermined time periods which are determined in accordance with characteristics of the optical element by changing control modes with time as recited in claim 1, as amended.

Accordingly, independent claim 1, as amended, is not rendered obvious by the Yoshida publication and the Imaizumi patent for at least the foregoing reason.

Although different in scope, independent claim 18, as amended, is similarly not rendered obvious. Since claims 15-17 directly or indirectly depend from claim 1 and since claim 19 depends from claim 18, these claims are similarly not rendered obvious.

New Claims

New dependent claims 20-22 and 23-25 depend from claims 1 and 18, respectively, and further recite that the characteristics of the optical element include at least a shape of the optical element, a thickness of the optical element or a material of the optical element. New claims 20-25 further distinguish the claimed invention over the cited art. These new claims are supported, for example, by page 31, lines 4-8 of the specification.

Conclusion

In view of the foregoing remarks, the applicants respectfully submit that the pending claims are in condition for allowance. Accordingly, the applicants request that the Examiner pass this application to issue.

Any arguments made in this request for reconsideration pertain ***only*** to the specific aspects of the invention ***claimed***. Any claim amendments or cancellations, and any arguments, are made ***without prejudice to, or disclaimer of***, the applicants' right to seek patent protection of any unclaimed (e.g., narrower,

broader, different) subject matter, such as by way of a continuation or divisional patent application for example.

Since the applicants' remarks, amendments, and/or filings with respect to the Examiner's objections and/or rejections are sufficient to overcome these objections and/or rejections, the applicants' silence as to assertions by the Examiner in the Office Action and/or to certain facts or conclusions that may be implied by objections and/or rejections in the Office Action (such as, for example, whether a reference constitutes prior art, whether references have been properly combined or modified, whether dependent claims are separately patentable, etc.) is not a concession by the applicants that such assertions and/or implications are accurate, and that all requirements for an objection and/or a rejection have been met. Thus, the applicants reserve the right to analyze and dispute any such assertions and implications in the future.

Respectfully submitted,

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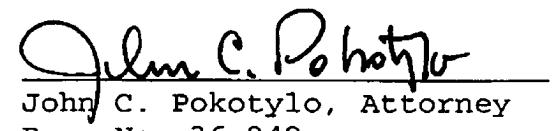

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